

Order No: R1-202X-XXXX

Attachment A: Monitoring and Reporting Program

I. Summary

The Monitoring and Reporting Program (MRP) consists of monitoring and reporting required of all Enrollees, and conditional monitoring requirements that are conducted based on an Enrollee's chosen compliance pathway for Riparian Grazing and Tailwater (Section II.E).

Required monitoring (Table A.1) consists of Representative Groundwater Monitoring to characterize and analyze trends in water quality related to impacts from irrigated agriculture; and Drinking Water Supply Well Monitoring to assess on-farm drinking water and notify well users when nitrate concentrations exceed 10 mg/L.

Conditional monitoring (Table A.2) applies when an Enrollee selects a compliance pathway that requires monitoring. Riparian Photo-Point Monitoring is required when an Enrollee selects the option to develop and implement a Grazing and Riparian Management Plan in lieu of meeting livestock grazing requirements in the Streamside Area as specified in Section II.E of the Order. Tailwater Monitoring is required when an Enrollee selects Tailwater Pathway 2: Treatment and Control as specified in Section II.E of the Order.

Required reporting (Table A.3) consists of an annual Farm Evaluation that documents an Enrollee's compliance with the Order's requirements, and an Annual Monitoring Report, which includes all monitoring data collected over the past year, except for Drinking Water Supply Well Monitoring results, which must be uploaded separately to the State Water Board's GeoTracker database¹.

A Coalition may conduct monitoring and reporting on behalf of their Enrollee members in accordance with the terms set forth in this MRP.

¹ GeoTracker is located at <https://geotracker.waterboards.ca.gov/>.

Table A.1: Summary of Required Monitoring

Monitoring Requirement	Location	Parameters	Frequency
Representative Groundwater Monitoring (Section III.A)	Representative wells in accordance with Section III of this MRP	Nitrate, Total Dissolved Solids, and field parameters	Annually
Drinking Water Supply Well Monitoring (Section III.B)	Each Drinking Water Well on an enrolled parcel	Nitrate	Annually for three years; then every five years if below 5 mg/L for three consecutive samples

Table A.2: Summary of Conditional Monitoring

Monitoring Requirement	Condition	Parameters	Frequency
Riparian Photo-Point Monitoring (Section IV.A)	When an Enrollee implements a Grazing and Riparian Management Plan in accordance with Order Section II.E, Streamside Areas	Photo-points	Pre- and Post-grazing event
Tailwater Monitoring (Section IV.B)	Enrollees who elect to implement Pathway 2 in accordance with Order Section II.E, Tailwater, for tailwater discharges to perennial streams (from April 1 to October 1) and intermittent streams (From April 1 to June 15).	Temperature, Total Kjeldahl Nitrogen (TKN) for Shasta River Watershed, or Total Phosphorus (TP) for Scott River Watershed	Continuous temperature logging during Irrigation Season, and grab sample each Irrigation Cycle for TKN or TP

Table A.3: Summary of Reporting Requirements

Reporting Requirement	Elements of Report	Submit to: (for Enrollees in a Coalition)	Submit to: (for Enrollees not in a Coalition)	Submittal Deadline and Frequency
Farm Evaluation (Section V)	Management practice implementation, Order compliance reporting, education event attendance, and CEQA Mitigation Monitoring, if applicable.	Coalition submits Enrollee data to the North Coast Water Board in accordance with Section V.	State Water Board GeoTracker database	By #DATE (1 year after enrollment deadline) and by March 1st annually thereafter.
Annual Monitoring Report (Section V)	Annual water quality monitoring results from Representative Groundwater Monitoring, and Tailwater Monitoring, where applicable	Coalition submits Representative Groundwater Monitoring and applicable Conditional Monitoring requirements on behalf of Enrollees to North Coast Water Board	State Water Board GeoTracker database for Groundwater Monitoring and CEDEN for Tailwater Monitoring, where applicable	By #DATE (1 year after enrollment deadline) and by March 1st annually thereafter.
Drinking Water Supply Well Monitoring Results (Section III.B)	Electronic Deliverable Format (EDF) data with APN and well coordinates	State Water Board GeoTracker database (by testing laboratory)	State Water Board GeoTracker database (by testing laboratory)	By #DATE (1 year after enrollment deadline) and by March 1st annually thereafter.

II. Required Monitoring

This Section describes required monitoring applicable to all Enrollees. Groundwater monitoring consists of (1) Representative Groundwater Trend Monitoring to characterize current groundwater quality conditions and evaluate long-term trends related to irrigated agriculture; and (2) Drinking Water Supply Well Monitoring to assess on-farm drinking water and notify well users when nitrate concentrations exceed the Maximum Contaminant Level (MCL).

A Coalition may conduct Representative Groundwater Trend Monitoring on behalf of its enrolled Members in accordance with the terms set forth in this MRP. Drinking Water Supply Well Monitoring shall be conducted by the Enrollee on each enrolled parcel.

This Section establishes the groundwater monitoring requirements applicable to all Enrollees. Groundwater monitoring consists of (1) Representative Groundwater Trend Monitoring to characterize current groundwater quality conditions and evaluate long-term trends related to irrigated agriculture; and (2) Drinking Water Supply Well Monitoring to assess on-farm drinking water and notify well users when nitrate concentrations exceed the Maximum Contaminant Level (MCL).

A Coalition may conduct Representative Groundwater Trend Monitoring on behalf of its enrolled Members in accordance with the terms set forth in this MRP. Drinking Water Supply Well Monitoring shall be conducted by the Enrollee on each enrolled parcel.

A. Representative Groundwater Monitoring

1. **Overview:** The objectives of Representative Groundwater Monitoring are to (a) determine current water quality conditions of groundwater relevant to irrigated agriculture in the Scott River and Shasta River watersheds; (b) develop long-term groundwater quality information that can be used to evaluate the basin-scale effects of irrigated agriculture and its practices on groundwater quality. For Enrollees in a Coalition, a groundwater monitoring network shall be sufficient to assess regional agricultural impacts to groundwater at a basin scale. For Individual Enrollees, a groundwater monitoring network shall be sufficient to assess agricultural impacts to groundwater across all their enrolled parcels.
2. **Workplan:** By a date established by the Executive Officer, the Coalition (on behalf of its enrolled Members) or the Individual Enrollee, shall submit a Representative Groundwater Monitoring Workplan (Workplan) to the North Coast Water Board Executive Officer for review and approval. The Coalition or Individual Enrollee shall implement the approved Workplan and report results in accordance with Section IV.
3. **Workplan Contents:** The Workplan shall include all elements necessary to meet the monitoring, reporting, and quality assurance requirements of this Section. At a minimum, the Workplan shall include:
 - a) A description of the intent, goals, objectives, and rationale for the proposed

representative groundwater monitoring network.

- b) Proposed monitoring wells of sufficient number, location, and screening depth to provide coverage in the Order's geographic area such that current water quality conditions of groundwater and composite regional effects of irrigated agriculture can be assessed in accordance with the trend monitoring objectives. The Coalition or Individual Enrollee may propose wells monitored under existing monitoring programs (e.g., Sustainable Groundwater Management Act networks or Drinking Water Supply Wells) where these wells meet the goals and requirements of Representative Groundwater Monitoring and collected data align with the parameters and frequency in Table A.3 below.
- c) Criteria for identifying Groundwater Monitoring wells in areas that may be at higher risk of nitrate impacts to groundwater quality from irrigated agriculture. At a minimum, the Coalition or Individual Enrollee shall consider: (a) irrigated agricultural land-use density; (b) soil type and saturated hydraulic conductivity; (c) existing water quality data; (d) depth to groundwater, with consideration given to selecting wells that best represent the groundwater zones most likely to be affected by irrigated agriculture; and (g) absence of nearby domestic or commercial wastewater disposal and/or biosolids application to avoid effects of other nitrate sources,
- d) A map and GPS coordinates of all proposed monitoring wells. The map(s) may be an aerial photograph, topographic map, LiDAR-derived shaded relief map, Google Earth image, or equivalent that depicts features at 1-inch = 50 feet or larger scale and clearly delineates all monitoring points required in this MRP. The map(s) may also be transmitted digitally as geographic information system (GIS) files such as shapefiles or GeoTIFFs.
- e) Well details for each proposed monitoring well: (a) GPS coordinates; (b) physical address of the property on which the well is situated (if available); (c) California state well number (if known); (d) total well depth; (e) top and bottom depths of well casing perforations; (f) copy of the water well driller's log (if available); (g) depth of standing water (static water level), if available; and (h) well seal information (type of material, length of seal).
- f) Sampling methods, frequency, and analytical procedures consistent with this Section.
- g) Methodology to evaluate trends in groundwater monitoring data.
- h) A Quality Assurance Project Plan (QAPP) that outlines procedures used to ensure the data collected and analyzed meet the requirements of this MRP. The QAPP shall be consistent with guidance provided by the State Water Resources Control Board (State Water Board) regarding Quality Assurance/Quality Control and shall, at a minimum, describe: project

management and personnel responsibilities; data quality objectives (precision, accuracy, completeness, representativeness, comparability); sampling design and methods; sample handling, custody, and transport; field and laboratory analytical methods; field and laboratory quality control samples; laboratory accreditation; data review, validation, and reporting; corrective action procedures; and records retention.

- i) Complete well details may not always be available for Groundwater Trend Monitoring wells. In such cases, well details shall be provided to the maximum extent practicable to allow the Executive Officer to determine that the well's characteristics are such that monitoring results from the well are appropriate for use in meeting the objectives of Representative Groundwater Monitoring. Wells used for Groundwater Monitoring that do not have complete well details shall be flagged so that they can be distinguished within the well network. Inclusion of any well in the well network is subject to Executive Officer approval.
4. Sampling and Parameters: All wells in the representative monitoring network shall be sampled annually, at a minimum, at the same time of year, and analyzed at least for the parameters identified in Table A.4 below.

Table A.4: Representative Groundwater Monitoring Parameters and Minimum Frequency

Groundwater Monitoring Parameter	Units	Analysis Type	Frequency
pH	pH units	Field	Annually
Specific Conductivity (at 25°C)	µmhos/cm	Field	Annually
Temperature	°C	Field	Annually
Nitrate as Nitrogen	mg/L	Laboratory	Annually
Total Dissolved Solids (TDS)	mg/L	Laboratory	Annually

5. Sample Collection and Analysis: Groundwater samples shall be collected using proper sampling methods, field equipment calibration, chain-of-custody, and quality assurance/quality control protocols. Laboratory analyses shall be conducted by an

Environmental Laboratory Accreditation Program (ELAP)-certified laboratory according to U.S. EPA-approved methods. Unless otherwise noted, all monitoring, sample preservation, and analyses shall be performed in accordance with the latest edition of Test Methods for Evaluating Solid Waste, SW-846, USEPA, and analyzed as specified herein by the appropriate analytical methods and reporting limits. Certified laboratories can be found on the State Water Board's ELAP website (https://www.waterboards.ca.gov/drinking_water/certlic/labs/index.html).

6. Data Submittal: All Representative Groundwater Monitoring data shall be submitted annually in the Annual Monitoring Report in accordance with Section X.X of this MRP.

B. Drinking Water Supply Well Monitoring

1. Overview: The purpose of Drinking Water Supply Well Monitoring is to: (a) identify drinking water wells with nitrate concentrations that exceed the Maximum Contaminant Level (MCL) of 10 milligrams per liter (mg/L) of nitrate+nitrite as N; and (b) notify drinking water well users of the potential for human health impacts.
2. Required Wells: Enrollees shall sample all private Drinking Water Supply Wells located on their enrolled parcels for nitrate. Enrollees may use a monitored Drinking Water Supply Well to satisfy Representative Groundwater Monitoring requirements in Section II.A provided that the well location and screen interval are representative of current groundwater quality conditions and suitable for evaluating regional impacts from irrigated agriculture in accordance with Section II.A.
3. Initial Sampling: Enrollees shall conduct annual Drinking Water Supply Well sampling for nitrate for three consecutive years. In lieu of one or more of these initial three annual sampling events, Enrollees may submit existing sampling results from one or more of the five prior years, provided: (a) nitrate sampling of the well was completed prior to enrollment in the Order; and (b) sampling and testing for nitrate were completed using USEPA-approved methods and by an ELAP-certified laboratory.
4. Sampling Frequency: If the nitrate concentration is at or above 5 mg/L of nitrate+nitrite as N in any of the first three annual samples, the Enrollee shall continue conducting annual Drinking Water Supply Well sampling. If the nitrate concentration is below 5 mg/L of nitrate+nitrite as N in three consecutive annual samples, the Enrollee may conduct sampling once every five years. Sampling once every five years may continue unless the nitrate concentration is at or above 5 mg/L, in which case the Enrollee must resume annual sampling until the nitrate concentration is below 5 mg/L for three consecutive years. The Executive Officer may, at any time, require an alternative sampling schedule based on trend data for the well.
5. Sampling Location: Samples shall be collected at or near the well head before the pressure tank and prior to any well head treatment. In cases where this is not

possible, the sample shall be collected from a sampling point as close to the pressure tank as possible, or from a cold-water spigot located before any filters or water treatment systems.

6. Laboratory Analysis: Drinking Water Supply Well sample analysis shall be conducted by an ELAP-certified laboratory according to USEPA-approved methods. Unless otherwise noted, all monitoring, sample preservation, and analyses shall be performed in accordance with the latest edition of Test Methods for Evaluating Solid Waste, SW-846, USEPA. Certified laboratories can be found on the State Water Board's ELAP website.
7. Data Submittal: All Drinking Water Supply Well monitoring data, including any existing data, shall be submitted electronically to the State Water Board's GeoTracker database by the testing laboratory in Electronic Deliverable Format (EDF). Data submitted shall include the APN where the Drinking Water Supply Well is located and the coordinates (latitude and longitude) of the well.
8. Exceedances: If water in any well that is used for drinking water exceeds 10 mg/L of nitrate+nitrite as N, the Enrollee shall provide written notice to the drinking water well users within 10 days of learning of the exceedance and send a copy of the notice to the North Coast Water Board. The copy of the notice shall also include a report of the number of people the Drinking Water Supply Well supplies. If the Enrollee is not the owner of the parcel enrolled in the Order, the Enrollee may provide notice instead to the owner within 24 hours of learning of the exceedance, and the owner shall provide notice to the drinking water well users within nine days and send a copy of the notice to the North Coast Water Board.
9. Form of Notice: At a minimum, the Enrollee or non-Enrollee owner shall notify drinking water well users of the exceedance by providing them a copy of a Drinking Water Notification Template approved by the Executive Officer, in a language accessible to the well users. The template shall be signed by the Enrollee or non-Enrollee owner certifying that notice has been provided to the users. A copy of the signed template shall be sent to the North Coast Water Board and retained by the Enrollee or non-Enrollee owner. Template is available in Attachment G: Templates.
10. Ceasing Sampling: Sampling may cease if a drinking water well is taken out of service or no longer provides drinking water because sufficient replacement water is being supplied. Enrollees shall keep any records (e.g., photos, bottled water receipts) establishing that the well is not used for drinking water.

III. Conditional Monitoring

This Section establishes monitoring requirements that apply conditionally to Enrollees based on the compliance pathways they have selected pursuant to the Order. Conditional monitoring consists of (1) Riparian Photo-Point Monitoring, applicable to Enrollees electing to develop and implement a Riparian Grazing Plan; and (2) Tailwater Monitoring, applicable to an Enrollee or group of Enrollees who elect Pathway 2 (Treatment and Control) as the compliance pathway for tailwater discharges under

Section II.E of the Order. The conditions that trigger each form of conditional monitoring are described in Section II.E of the Order.

A. Riparian Photo-Point Monitoring

1. **Applicability:** Enrollees electing to develop and implement a Grazing and Riparian Management Plan (GRMP) in lieu of meeting livestock grazing requirements in Streamside Areas (Section II.E of the Order) shall conduct Riparian Photo-Point Monitoring at applicable riparian pastures on enrolled parcels in accordance with this Section.
2. **Objective:** The objective of Riparian Photo-Point Monitoring is to provide a qualitative indication that implemented grazing and riparian management practices are commensurate with the livestock grazing requirements in the Streamside Area (Order Section II.E, Streamside Area) and are effective at maintaining or improving riparian vegetative cover, shade, and channel condition consistent with the Total Maximum Daily Loads (TMDLs) and temperature Water Quality Objective.
3. **Site Selection:** The Enrollee, in their GRMP, shall propose a representative sample of riparian grazing locations for photo-point monitoring. Photo-points shall be located so they are representative of the range in stream gradient, riparian community type, grazing intensity, and management practice implementation across the applicable enrolled parcels.
4. **Photo-Point Establishment and Protocols:** Guidance regarding establishment and protocols for photo-point monitoring are provided by the NRCS Quick Guide to Photo Monitoring. At a minimum, each photo-point shall include: (a) a permanent or repeatably locatable photo station with GPS coordinates; (b) a compass bearing and field of view recorded for each photograph; (c) a visible reference object or scale within the frame; and (d) accompanying field notes documenting date, observer, weather, observed riparian condition (vegetation cover, height, composition, and use indicators), and any observed grazing impacts. All photo-points shall be depicted on the Enrollee's Farm Evaluation map as required by Section IV.
5. **Pre- and Post-Grazing Event Monitoring:** For each grazing event in a monitored riparian pasture, photo-points shall be captured both immediately prior to the grazing event and immediately following the conclusion of the grazing event to document the change in riparian condition attributable to the grazing event.
6. **Reporting:** Photo-Point Monitoring records shall be reported as photo-point images and narrative analysis. Photographs, GPS coordinates, compass bearings, and accompanying field notes shall be maintained at the Enrollee's farming headquarters or primary place of business and shall be provided to North Coast Water Board staff on request. Where photo-point documentation indicates declining riparian condition, persistent grazing-related impacts, or failure of implemented practices to maintain or improve riparian function, the Enrollee shall implement

additional or modified management practices and report these in their Farm Evaluation.

B. Tailwater Monitoring

1. **Applicability:** The tailwater monitoring requirements in this Section apply to Enrollees that elect Pathway 2 (Treatment and Control) as the compliance pathway for tailwater discharges under Section II.E of the Order. Enrollees that elect Pathway 1 (Eliminate Tailwater Discharge) are not required to comply with the monitoring requirements of this Section, provided the Enrollee is implementing a self-certified or Certified Tailwater Elimination Plan under Section II.E of the Order and meeting the time schedule as specified in Section II.E of the Order. The Executive Officer may require an Enrollee under Pathway 1 to conduct tailwater monitoring consistent with this Section where evidence indicates that the Enrollee is failing to implement their Tailwater Elimination Plan, including but not limited to: failure to meet intermediate compliance milestones in the time schedule; failure to implement or maintain the practices identified in the Plan; or or failing to meet their certification that tailwater has been eliminated.
2. **Monitoring Locations:** Tailwater that is hydrologically connected to perennial streams (from April 1 to October 1) and intermittent streams (From April 1 to June 15) must be monitored at the Point of Compliance. Enrollees that select Pathway 2 have two options to fulfill Tailwater Monitoring requirements, and must choose one of the following:
 - a. **Edge-of-Field (Individual) Monitoring:** Enrollees shall monitor hydrologically-connected tailwater discharges at the lowest elevation where tailwater discharges from their irrigated parcel(s).
 - b. **Group Monitoring Network:** A group of Enrollees or the Coalition may propose a tailwater monitoring Point of Compliance or tailwater monitoring network consisting of multiple monitoring points on behalf of one or multiple discharging Enrollees. These Points of Compliance must be located on concentrated tailwater flow paths at the outlets of hydrologically-connected tailwater drainage areas. A single Point of Compliance may represent tailwater discharges from a single Enrollee or from multiple Enrollees whose Fields or Operations drain to the same Point of Compliance. If elected, By **#DATE (6 months after enrollment deadline)**, the group of Enrollees, or the Coalition shall propose Point(s) of Compliance to the Executive Officer for approval. At a minimum, proposals shall include:
 - i. A map identifying the proposed Point(s) of Compliance, contributing enrolled Fields or Operations, and drainage area boundaries;
 - ii) GPS coordinates of the Point(s) of Compliance;
 - iii) Access, installation, and maintenance arrangements for the Point(s) of Compliance; and

- iv) The name and contact information of the single Enrollee, a group of Enrollees, or by the Coalition for data collection, reporting, and source determination.

The Executive Officer may approve, approve with conditions, require modifications to the proposed Point(s) of Compliance, or determine new Point(s) of Compliance. Point(s) of Compliance shall be installed and operational by the start of the next irrigation season following approval or direction from the Executive Officer.

4. Monitoring Parameters and Frequency. The Enrollee, group of Enrollees or Coalition shall collect the parameters as identified in Table A.5 at each approved Point of Compliance when tailwater is present during the Irrigation Season (April 1-October 1):
- a) Temperature: The Enrollee, group of Enrollees, or Coalition shall install and maintain continuous monitoring equipment at each Point of Compliance capable of recording temperature at a maximum 15-minute interval whenever active tailwater discharge is occurring. Equipment shall be calibrated in accordance with manufacturer specifications and a Quality Assurance Project Plan (QAPP) consistent with State Water Board Quality Assurance/Quality Control guidance.
 - b) Total Kjeldahl Nitrogen (TKN): In Shasta River Watershed, the Enrollee, group of Enrollees, or Coalition shall sample for TKN no less than once every Irrigation Cycle between April 1-October 1. Data collection methods, and quality assurance procedures shall be consistent with State Water Board SWAMP requirements.
 - c) Total Phosphorus (TP): In Scott River Watershed, the Enrollee, group of Enrollees, or Coalition shall sample for TP no less than once every Irrigation Cycle between April 1-October 1. Data collection methods, and quality assurance procedures shall be consistent with State Water Board SWAMP requirements.

Table A.5: Tailwater Monitoring Parameters and Frequency

Parameter(s)	Collection method	Analysis method	Monitoring Frequency
Temperature	Continuous monitoring (data logger)	Manufacturer-calibrated instrument; NIST-traceable reference	Continuous at intervals ≤ 15 minutes when active discharge is occurring, during the Irrigation Season (April 1 – October 1)

Parameter(s)	Collection method	Analysis method	Monitoring Frequency
Total Kjeldahl Nitrogen (TKN)	Grab Sample	EPA Method 351.2 or similar with a laboratory reporting limit at or below 0.1 mg/L	At least one sample every Irrigation Cycle between April 1-October 1
Total Phosphorus (TP)	Grab Sample	EPA Method 365.1 or similar with a laboratory reporting limit at or below 0.003 mg/L	At least one sample every Irrigation Cycle between April 1-October 1

5. Tailwater not present: If no tailwater is present at a Point of Compliance during a scheduled sampling event, the Enrollee or responsible party shall document the absence of flow in lieu of a sample. Documentation of no flow shall include the date of the scheduled sampling event, the field observations supporting the determination, the identity of the observer, and a certification by the Enrollee or designated representative of the group of Enrollees or Coalition.
6. Source Determination and Tailwater Adaptive Management Program. At the close of each irrigation season, the Enrollee or responsible party for each monitoring point shall:
 - a) Compile the temperature, TKN, and TP data collected during the irrigation season;
 - b) Identify each occurrence of a Water Quality Benchmark exceedance at the Point of Compliance as described in Order Section II.E, Tailwater Adaptive Management Program;
 - c) Identify each enrolled parcel contributing to the drainage area that was irrigating and discharging tailwater during exceedance events; and
 - d) Complete a Source Determination Report, to the extent supported by the monitoring data and irrigation records, identifying the enrolled parcel(s) whose tailwater discharges caused or contributed to each Water Quality Benchmark exceedance. Enrollee(s) of identified parcel(s) must comply with the Tailwater Adaptive Management Program as described in Section II.E of the Order.

The Source Determination Report shall be submitted as part of the Annual Monitoring Report described in Section IV.B of this MRP.

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7. Reporting: The Enrollee, Group of Enrollees, or Coalition shall submit Tailwater Monitoring data annually in the Annual Monitoring Report as described in Section V.C of this MRP. Continuous data shall be submitted in full resolution as electronic comma-separated value (CSV) text files, along with tabular descriptive statistics. Grab sample results shall be submitted as tabular results with laboratory analytical reports and shall be organized by sampling date, location, constituent, method detection limit, reporting limit, and analytical result.
8. Quality Assurance and Equipment Calibration: All Tailwater Monitoring shall be conducted in accordance with a Quality Assurance Project Plan (QAPP) consistent with State Water Board Quality Assurance/Quality Control guidance. Temperature loggers shall be calibrated against a NIST-traceable reference before deployment and upon retrieval, or every 6 months, whichever is more frequent. Handheld thermometers shall be calibrated annually against a NIST-traceable reference. Calibration records shall be maintained and submitted with the Annual Monitoring Report. The QAPP shall be submitted with the monitoring location proposals and shall address tailwater monitoring procedures, equipment, calibration, and data management in addition to groundwater procedures.
9. Supplemental Receiving Water Monitoring. The Executive Officer may request information pursuant to Section 13267 of any Enrollee who has selected Pathway 2 (Treatment and Control), including but not limited to: conducting receiving water temperature monitoring upstream and downstream of the Point of Compliance where: (a) the Enrollee's parcel(s) discharge to a reach identified in the TMDL Action Plans as having high habitat value; (b) the operation discharges within 500 feet upstream of a documented thermal refugium; (c) multiple Enrollees discharge to the same reach (tailwater neighborhood); or (d) a significant exceedance has occurred and receiving water impact data is needed. Where required, the Enrollee shall deploy continuous temperature loggers ($\pm 0.2^{\circ}\text{C}$; ≤ 30 min interval) approximately 100 feet upstream and 100 feet downstream of the Point of Compliance for the duration of the applicable seasonal period.

IV. Reporting Requirements

This Section establishes the annual reporting requirements applicable to all Enrollees. Required reporting consists of (1) an annual Farm Evaluation; and (2) an Annual Monitoring Report, which presents annual water quality monitoring results collected pursuant to Sections II, III, and IV of this MRP.

This Section does not include single submissions or other information that may be required of Enrollees and/or the Coalition such as Workplans, Tailwater Elimination Plans, or Grazing and Riparian Management Plans. Workplan requirements are provided in Section II of this MRP. Tailwater Elimination Plan and Grazing and Riparian Management Plan requirements are located in Section II.E of the Order.

All documents shall be submitted electronically in searchable Portable Document Format (PDF). Maps shall be submitted both within the main PDF documents and as accompanying ArcGIS shapefiles or Google Earth KMZ files. All continuous monitoring data shall be submitted in full resolution as electronic comma-separated value (CSV) text files. Surface water monitoring data, including Tailwater Monitoring data, shall be submitted to the California Environmental Data Exchange Network (CEDEN). Groundwater monitoring data and Drinking Water Supply Well monitoring data shall be submitted to the State Water Board's GeoTracker database in Electronic Deliverable Format (EDF). Drinking Water Supply Well monitoring data shall be uploaded directly to GeoTracker by the testing laboratory or the enrollee in accordance with Section II.B and does not need to be included in the Annual Monitoring Report.

A. Farm Evaluation

1. **Purpose:** All Enrollees shall complete an annual Farm Evaluation to inventory the management practices currently implemented on their enrolled parcels; to document compliance with the Order; to identify any additional practices needed to prevent discharges that could cause or contribute to exceedances of water quality objectives or violate TMDL load allocations; and to document Adaptive Management actions taken or proposed.
2. **Schedule:** Individual Enrollees shall submit their Farm Evaluation to the North Coast Water Board by **March 1** of each year. A Coalition may aggregate Farm Evaluation data on behalf of its enrolled members and submit one Annual Compliance Report by **March 1** of each year.
3. **Frequency and Scope:** Enrollees shall complete a Farm Evaluation each year for all enrolled parcels. Where this MRP requires reporting by Field, Enrollees may aggregate data for multiple Fields provided that the reported area has (1) the same fertilizer inputs, (2) the same irrigation management, and (3) the same management practices. Fields aggregated in this way shall be referred to as a Management Unit and shall be defined, labeled, and consistent across all reporting. No Management Unit shall exceed 640 irrigated acres.
5. **Template:** Enrollees may use the Farm Evaluation Template in Attachment G:

Templates, or an alternative template which meets all of the requirements below. At a minimum, the Farm Evaluation shall include the following:

- a) Owner/Operator Identification: The name, business address, mailing address, email address, and phone number of the owner and operator (if different from the owner).
- b) Operation Identification: Location(s) of all enrolled Irrigated Lands parcel(s), including:
 - i) Crop type (e.g., livestock, alfalfa, grain hay or forage hay, mixed crops).
 - ii) The physical address of each enrolled parcel.
 - iii) The Assessor Parcel Number (APN) of each enrolled parcel.
 - iv) The Township and Range of each enrolled APN.
 - v) The self-appointed Field ID of each enrolled APN, if applicable.
 - vi) Total acreage under cultivation and total acreage under grazing for each APN.
- c) Well Identification: The number and location of (1) irrigation wells, (2) Drinking Water Supply Wells, and (3) abandoned or inactive wells located within each enrolled APN. Each well shall be given a unique Well ID.
- d) Farm Map: A Farm Map shall include all enrolled parcels and may be an aerial photograph, topographic map, LiDAR-derived shaded relief map, Google Earth image, or equivalent that depicts features at 1-inch = 50 feet or larger scale and a 10-foot contour interval. Coalitions may submit Coalition-wide Farm Maps at no greater than a 100-foot contour interval, with detail maps provided at the Section level at no greater than a 10-foot contour interval where the features listed below are present. The map shall include a north arrow, scale bar, legend for any symbology, and the following labeled features:
 - i) All waterbodies present within the enrolled area, including all designated wetlands.
 - ii) Livestock and Riparian Grazing Plan photo-points (if applicable).
 - iii) All tailwater discharge points to surface waters or designated wetlands and Points of Compliance, if applicable
 - iv) All stream crossings used by livestock or vehicles.
 - v) A delineation of parcels used for grazing and crop cultivation.

- vi) A delineation of parcels where nutrients are applied, including manure.
 - vii) Identified parcels that contain Drinking Water Supply Wells.
 - viii) Any chemical storage areas, including petroleum product tanks, fertilizer, and herbicide stockpiles.
 - ix) Farm buildings, including livestock loading areas, areas where livestock are held temporarily in confinement, and hay barns.
 - x) The on-farm road network within the enrolled area.
 - xi) Implemented Management Practices designed to protect water quality.
 - xii) Proposed future BMPs designed to protect water quality.
 - xiii) Field ID(s) and land use for each Field (e.g., crop type, fallow, grazing).
- e) Management Practices: A tabular inventory of all BMPs implemented on the enrolled parcels by Field ID.
- f) Streamside Areas: Enrollees shall report whether minimum Streamside Area widths established by the Order are being met in each applicable Field and, where minimum widths are not being achieved, identify the specific Fields and conditions.
- g) Irrigation and Nutrient Management: Enrollees shall report the following for each Field or Management Unit:
- i) Primary and secondary irrigation methods (e.g., flood, wheel line, Mid-Elevation Spray Application [MESA], Low Elevation Spray Application [LESA], Low Energy Precision Application [LEPA], Precision Mobile Drip Irrigation [PMDI], or Other with narrative description).
 - ii) Irrigation management practices implemented to minimize or prevent surface run-off or groundwater leaching.
 - iii) Range of calendar dates of irrigation application.
 - iv) Nutrient application details: type of fertilizer or manure applied, date applied, and application rate (tons/acre or lbs/acre as applicable).
 - v) Nitrogen applied (lbs/acre) for each Field receiving an external source of nitrogen, reported as: (1) Nitrogen applied via fertilizers (lbs/acre); (2) Nitrogen applied via organics and compost (lbs/acre); (3) Nitrogen applied via water (lbs/acre); and (4) Total Nitrogen applied (lbs/acre) [sum of nitrogen from fertilizer, organics/compost, and applied water].
 - vi) Irrigation efficiency determination for each Field or Management Unit

consistent with the following categories: DEFICIT IRRIGATED (where applied irrigation is less than 95% of the determined agronomic rate); FULLY IRRIGATED (where applied irrigation is within $\pm 5\%$ of the determined agronomic rate); or OVER IRRIGATED (where applied irrigation is greater than 105% of the determined agronomic rate).

- h) Riparian Grazing Management: For each Field or Management Unit where livestock are present during the reporting period, Enrollees shall report: compliance pathway selected with respect to Streamside Area management (e.g., livestock grazing requirements met or Grazing and Riparian Grazing Plan implemented) in accordance with Section II.E of the Order.
- i) Tailwater Management: For each Field or Management Unit, Enrollees shall report either “no tailwater discharged” or the selected compliance pathway (i.e., Pathway 1 or Pathway 2) in accordance with Order Section II.E, Tailwater.
- j) Adaptive Management Reporting: Reporting of Water Quality Benchmarks exceeded and proposed Adaptive Management to be implemented to correct exceedances in accordance with Section II.E, Tailwater Adaptive Management Program.
- k) Education Event Attendance: Education event attendance records shall include: Date of annual event attended; Type of event (e.g., in-person meeting, online video, printed materials); and Brief description of topics covered.
- h) CEQA Mitigation Monitoring: A report on the CEQA mitigation measures in Attachment F employed to comply with provisions of the Order, including the measure implemented, identified potential impact the measure addressed, parcel(s) where of the mitigation measure was employed, and any steps taken to monitor the ongoing success of the measure.
- k) Certification of Maintenance: The Enrollee shall certify on the Farm Evaluation that all management practices are designed, installed, maintained, and promptly repaired in accordance with the Order, and that all information reported is true and correct to the best of the Enrollee's knowledge.

Coalition Reporting of Enrollee Farm Evaluations

- 6. A Coalition may submit one Annual Compliance Report on behalf of its enrolled Members. The Annual Compliance Report shall include a Participant List and aggregated Farm Evaluation data from the most recently submitted Farm Evaluations of enrolled Members, reported by Anonymous Enrollee ID.
- 7. Participant List: The Coalition shall submit in the Annual Compliance Report, a

Participant List which shall include:

- a) All enrolled Members of the Coalition (Owner/Operator name);
 - b) Address, and APN of each enrolled parcel;
 - c) Parcel acres and farmed acres of each enrolled parcel;
 - d) New members enrolled during the reporting period; and
 - e) Enrollees no longer Members of the Coalition with a reason for non-participation (e.g., no longer farming or sold farm, plan to enroll as an Individual Enrollee, or failure to submit reports).
8. Farm Evaluation Data: The following data from the prior year's Farm Evaluations shall be reported to the North Coast Water Board for each Field in an Excel Workbook format and be accompanied by a quality assessment of the collected information (e.g., missing data, potentially incorrect/inaccurate reporting), and a description of corrective actions to be taken regarding any deficiencies in the quality of data submitted, if such deficiencies were identified:
- a) Anonymous Enrollee ID and Field number.
 - b) Anonymous APN Number
 - c) Township and Range for each Field ID
 - d) Crop type (i.e. grain, alfalfa, berry, irrigated pasture)
 - d) Implemented Management Practices
 - e) Streamside Area width compliance
 - f) Riparian Vegetation Area compliance option selected
 - g) Tailwater compliance option selected
 - f) Irrigation and Nutrient Management reporting including:
 - i) Irrigation method.
 - ii) Irrigation practices.
 - iii) Nitrogen management practices and Nitrogen Applied through the following:
 - 1. Nitrogen applied via fertilizers (lbs./acre).
 - 2. Nitrogen applied via organics and compost (lbs./acre).

3. Nitrogen applied via water (lbs./acre).
4. Total Nitrogen applied (lbs./acre) [sum of nitrogen from fertilizer, organics/compost, and all applied water].
- g) Number of irrigation wells (both active and inactive).
- h) Number of drinking water wells on the parcel.
- i) Tailwater Compliance Pathway and Stage implemented, if applicable
- j) Education Event attendance date
- k) CEQA Mitigation Measure implemented on the Field, if applicable.

B. Annual Monitoring Report

1. The Annual Water Quality Monitoring results submittal shall include all Representative Groundwater Monitoring, and Tailwater Monitoring (where applicable) from the past crop year. Individual Enrollees shall upload all data into GeoTracker or CEDEN, as appropriate. The Coalition may submit data on behalf of its enrolled Members to the North Coast Water Board.
2. Individual Enrollees shall submit their Annual Monitoring Report to the North Coast Water Board by March 1 of each year. A Coalition may submit one Annual Monitoring Report on behalf of its enrolled Members by March 1 of each year. If March 1 falls on a Saturday, the Annual Monitoring Report shall be due the preceding Friday. If March 1 falls on a Sunday, the Annual Monitoring Report shall be due the following Monday. The Annual Monitoring Report shall cover the calendar year preceding the March 1 submittal deadline.
3. Map of Monitoring Locations: A map of all monitoring locations shall be included, showing:
 - a) A map of all Representative Groundwater Monitoring wells
 - b) All other approved locations where monitoring data required by Sections II and III of this MRP were collected during the reporting period.
19. All analytical data required of Individual Enrollees shall be uploaded to GeoTracker in an Electronic Deliverable Format (EDF). Additionally, monitoring data, monitoring reports, and correspondence shall be in searchable Portable Document Format (PDF) and shall be uploaded annually to GeoTracker. Data required of Coalitions on behalf of their enrolled Members shall be submitted to the North Coast Water Board in accordance with the requirements set forth in the following sections.

Groundwater Monitoring Data Submittal

20. The Enrollee or Coalition shall submit results using a template on the North Coast Water Board website or an alternate template approved by the Executive Officer. Data shall be submitted in an electronic format and include the following for the required reporting period:
- a) Excel workbook containing analytical data for each Representative Groundwater monitoring well (identified by Well ID and GPS coordinates), including all parameters identified in Table A.4.
 - b) Electronic copies of all field sheets.
 - c) Electronic copies of all applicable laboratory analytical reports.
 - e) For chemistry data, analytical reports shall include, at a minimum, the following:
 - i) A lab narrative describing quality control failures.
 - ii) Analytical problems and anomalous occurrence.
 - iii) Chain of custody and sample receipt documentation.
 - iv) All sample results for contract and subcontract laboratories with units. Reporting Limits and Method Detection Limits.
 - v) Sample preparation, extraction, and analysis dates.
 - vi) Results for all quality control samples including all field and laboratory blanks, lab control spikes, matrix spikes, field and laboratory duplicates, and surrogate recoveries.
21. If any data is missing from the annual report, the submittal shall include a description of what data is missing and when it will be submitted to the North Coast Water Board.
22. Drinking Water Supply Well monitoring results shall be uploaded directly to the State Water Board's GeoTracker database by the testing laboratory in accordance with Section II.B and do not need to be included in the Annual Monitoring Report. A summary of exceedances (if any) and confirmation that any required notifications have been provided shall be included in the Farm Evaluation (Attachment A Section V)

Tailwater Monitoring Data Submittal

- 2) Where the Enrollee has elected Pathway 2 under Order Section II.E, Tailwater, Tailwater Monitoring results from the reporting period shall be included,

consisting of continuous monitoring data for temperature and grab sample data for TKN (Shasta River Watershed) and TP (Scott River Watershed) at each approved Point of Compliance

- a) Continuous Monitoring: Full-resolution electronic data submitted as CSV text files for continuous temperature from each Point of Compliance at 15-minute intervals for each Irrigation Cycle while tailwater is being discharged. Data shall be organized by seasonal period (Early, Mid, Late) and shall identify each occurrence of a Water Quality Benchmark exceedance
- b) Grab Sample Monitoring — tabular results and laboratory analytical reports for TKN (for the Shasta River Watershed) or TP (for the Scott River watershed) submitted with method detection limit, reporting limit, and QA/QC results; and
- c) Narrative discussion of exceedance(s) of Water Quality Benchmarks and Source Determination Report, if applicable.